factors. RR of CV events is shown in the table.
Conclusion: Current ERT use among older women was associated with fewer myocardial infarctions and "HERS endpoints", but there was no association with all cause mortality or stroke. Past ERT use was associated with lower all cause mortality, but there was no association with CV events. The observed associations may reflect a healthy-user effect. Clinical trials will be necessary to assess the effect of ERT in older women.

Fully Adjusted Cox Model of CV Events (RR(95%CI))

	Past ERT	Current ERT
Death	.72 (.57,.90)	1.03 (.76,1.40)
Myocardial Infarction	.90 (.66,1.23)	.44 (.23,.84)
Stroke	.84 (.62,1.13)	.94 (.60,1.45)
"HERS Endpoint" (nonfatal MI or CHD death)	.82 (.64,1.06)	.54 (.34,.86)

1113-150 **Chronic Vitamin C Supplementation Improves Endothelial Function in Diabetic Patients With Coronary Artery Disease**

Charalambos Antoniades, Dimitris Tousoulis, Costas Tentolouris, Kyriakoula Marinou, Athanasios Trikas, Stella Brilli, Christos Pitsavos, Christodoulos Stefanadis, Pavlos Toutouzas, *Cardiology Unit, Hippokration Hospital, Athens University Medical School, Athens, Greece.*

Background: Coronary artery disease (CAD) as well as diabetes mellitus (DM), are both known to be associated with endothelial dysfunction. Oxidative stress is considered to be one of the most important mechanisms involved in the pathogenesis of endothelial dysfunction in CAD and DM. In this study we investigated whether treatment with the antioxidant vitamin C improves endothelial function in patients with type I or II DM and CAD.
Methods: In a double-blind placebo-controlled study, 48 patients (42 males, 6 females, aged 66±1.3 years) with CAD and DM, were enrolled. 22 of them were of type I DM and 26 of type II. 18 diabetic patients (7 with type I DM (group A) and 11 with type II DM (group B)) were treated with vitamin C 2g/day for 4 weeks. The remaining (15 with type I DM (group C) and 15 with type II DM (group D)) received placebo for 4 weeks. Forearm blood flow was measured using venous occlusion strain-gauge plethysmography, at baseline and after treatment. Endothelium dependent flow mediated vasodilation (FMD) was expressed as the % change from baseline to post reactive hyperemia blood flow. Endothelium independent flow (NTG%) was expressed as the % change from baseline to post sublingual nitroglycerin administration flow.
Results: Basal blood pressure, heart rate, body weight, basal forearm blood flow and NTG% remained unchanged in all groups. All values are expressed as mean±SEM. FMD was similar between patients with type I (53.9±3.3%) and type II (57.8±6.0%, p=NS) DM. After treatment, RH% was significantly increased in groups A (from 54.2±7.3 to 73.1±7.1% p<0.05) and B (from 66.5±11.7 to 84.3±15.1% p<0.05) while remained unchanged in groups C (from 53.1±4.2 to 50.1±8.2% p=NS) and D (from 55.8±11.6 to 58.3±10.1% p=NS).
Conclusions: Chronic administration of vitamin C seems to improve endothelial function in patients with combined coronary artery disease and diabetes mellitus of type I or II. These findings indicate a possible beneficial role of antioxidant vitamin C in diabetic patients with coronary artery disease.

FEATURED ORAL PRESENTATION

830FO Featured Oral Session...Stress Testing and Prognosis: Non-ST Segment Parameters

Monday, March 18, 2002, 2:00 p.m.-3:30 p.m.
Georgia World Congress Center, Room 367W

2:15 p.m.

830FO-2 **The Yield of Screening Stress Myocardial Perfusion Imaging in Asymptomatic Diabetics**

Todd D. Miller, Navin Rajagopalan, David O. Hodge, Robert L. Frye, Raymond J. Gibbons, *Mayo Clinic, Rochester, Minnesota.*

Background: Diabetics have a higher prevalence of silent coronary artery disease (CAD) than nondiabetics and a prognosis similar to that of patients with established CAD. Nonetheless, screening stress testing in asymptomatic persons without known CAD including diabetics is not well established according to the ACC/AHA Guidelines for Exercise Testing.
Methods: The results of exercise and pharmacologic single photon emission computed tomography (SPECT) imaging were analyzed in 27,179 patients without known CAD who underwent testing between January 1986 and December 2000. Patients were grouped by symptom and diabetes status. SPECT scans were categorized as abnormal or not and "high-risk" (on the basis of previously published criteria) or not.
Results:

Subset	Number	Age (yrs ± SD)	Male (%)	Abnormal SPECT (%)	High-risk SPECT (%)
Symptomatic, nondiabetic	16,196	62±15*	53*	44*	13*
Symptomatic, diabetic	2994	63±11*	53*	59	22
Asymptomatic, nondiabetic	6248	63±11*	73*	46*	11*
Asymptomatic, diabetic	1741	60±13	70	59	20

*p ≤ 0.004 vs asymptomatic diabetic

Insulin use did not further stratify asymptomatic diabetics for abnormal SPECT (57% insulin vs 60% no insulin, p=0.15) or high-risk SPECT images (20% insulin vs 19% no insulin, p=0.59). In asymptomatic diabetics who underwent exercise stress (52%), a positive ECG occurred in 29%.
Conclusions: In asymptomatic patients referred for screening stress SPECT imaging, diabetics are slightly younger and more frequently female than nondiabetics but have a significantly higher prevalence of abnormal and high-risk SPECT scans. Both abnormal and high-risk scans are more common in asymptomatic diabetics than even in symptomatic nondiabetics.

2:30 p.m.

830FO-3 **Comparison of Noninvasive Cardiac Testing in 903 Asymptomatic Men: Correlation With Coronary Angiography and With Clinical Events at Two and Five Years**

Patrick J. Fitzsimmons, Ants Palm-Leis, William T. Thompson, William B. Kruyer, *USAF School of Aerospace Medicine, Brooks AFB, Texas.*

Background: Noninvasive techniques may be used to screen asymptomatic subjects for coronary artery disease (CAD). However, the accuracy of these tests is significantly influenced by the low prevalence of CAD in asymptomatic populations. We sought to define the accuracy of three noninvasive tests for predicting significant CAD and cardiac events in a population of asymptomatic men.
Methods: From a database of 1487 asymptomatic military aviators who had coronary angiography performed for occupational indications and had clinical follow-up, we identified 903 who had all three noninvasive tests prior to angiography - treadmill, stress thallium imaging and coronary artery fluoroscopy for detection of coronary calcification. Sensitivity, specificity and positive and negative predictive values were calculated for each test for the presence of significant CAD (maximum lesion >50% stenosis). Cardiac event rates at two and five years were determined for abnormal versus normal test. Cardiac events considered were cardiac death, nonfatal myocardial infarction and coronary revascularization.
Results: Mean age at coronary angiography was 43.7 (+/-6.2) years and mean follow-up was 11.8 (+/-3.8) years. Sensitivity, specificity and positive and negative predictive values for the presence of significant CAD were: treadmill 54%, 49%, 16% and 86%; thallium 55%, 62%, 21% and 89%; and fluoroscopy 68%, 71%, 29% and 93%. Average annual cardiac event rates at two and five years for abnormal test were: abnormal treadmill 1.0%/yr and 0.5%/yr, abnormal thallium 1.0%/yr and 0.6%/yr, and positive coronary artery fluoroscopy 1.6%/yr and 1.3%/yr. For normal test, event rates at two and five years were: normal treadmill 0.3%/yr and 0.5%/yr, normal thallium 0.5%/yr and 0.5%/yr, and negative fluoroscopy 0.2%/yr and 0.1%/yr.
Conclusion: As expected, all three noninvasive tests were independently poor predictors of significant CAD and cardiac events in this low CAD prevalence population. For all parameters examined, detection of coronary calcification by routine fluoroscopy performed better than treadmill and thallium, both for prediction of anatomic disease and for cardiac events at two and five years of follow-up.

2:45 p.m.

830FO-4 **Ventricular Ectopic Activity Predicts Mortality When It Occurs During Recovery, but Not Just During Exercise**

Joseph Frolkis, Claire E. Pothier Snader, Eugene H. Blackstone, Michael S. Lauer, *Cleveland Clinic Foundation, Cleveland, Ohio.*

Background: Ventricular ectopy (VEA) induced by exercise predicts death in population-based cohorts. We examined the prognostic importance of VEA during exercise and recovery, when reactivation of parasympathetic activity occurs. We hypothesized that VEA during recovery would predict death better than VEA during exercise.
Methods: We followed for 5.3 years 28,976 patients (age 56±11, 70% male) who underwent treadmill exercise testing and were without heart failure, valve disease, atrial fibrillation, VEA history, or pacemakers. VEA was defined as: > 7 VPCs/minute, ventricular bigeminy or trigeminy, ventricular tachycardia, or ventricular fibrillation.
Results: VEA during exercise only occurred in 923 patients (3%), during recovery only in 577 (2%), and during exercise and recovery in 483 (2%). There were 1801 deaths (6%). In univariate analyses, VEA during exercise predicted death (11% vs. 6%, hazard ratio [HR] 1.9, 95% CI 1.6-2.2, P<0.0001), but VEA during recovery was a stronger predictor (13% vs. 6%, HR 2.4, 95% CI 2.1-2.9, P<0.0001) (Figure).